


**#NHCPC24**  
**NATIONAL HEALTHCARE COALITION  
PREPAREDNESS CONFERENCE**  
*Visions of Progress: Sustainable Strategies for  
Emergency Preparedness & Resilience*

Presented By:



**MESH**



Sam Lashley  
Warning Coordination Meteorologist  
National Weather Service  
Indianapolis, Indiana

William Ulrich  
Warning Coordination Meteorologist  
National Weather Service  
Orlando, Florida



# NWS Indianapolis and MESH Partnership



The MESH Coalition has been a WRN Ambassador since 2021

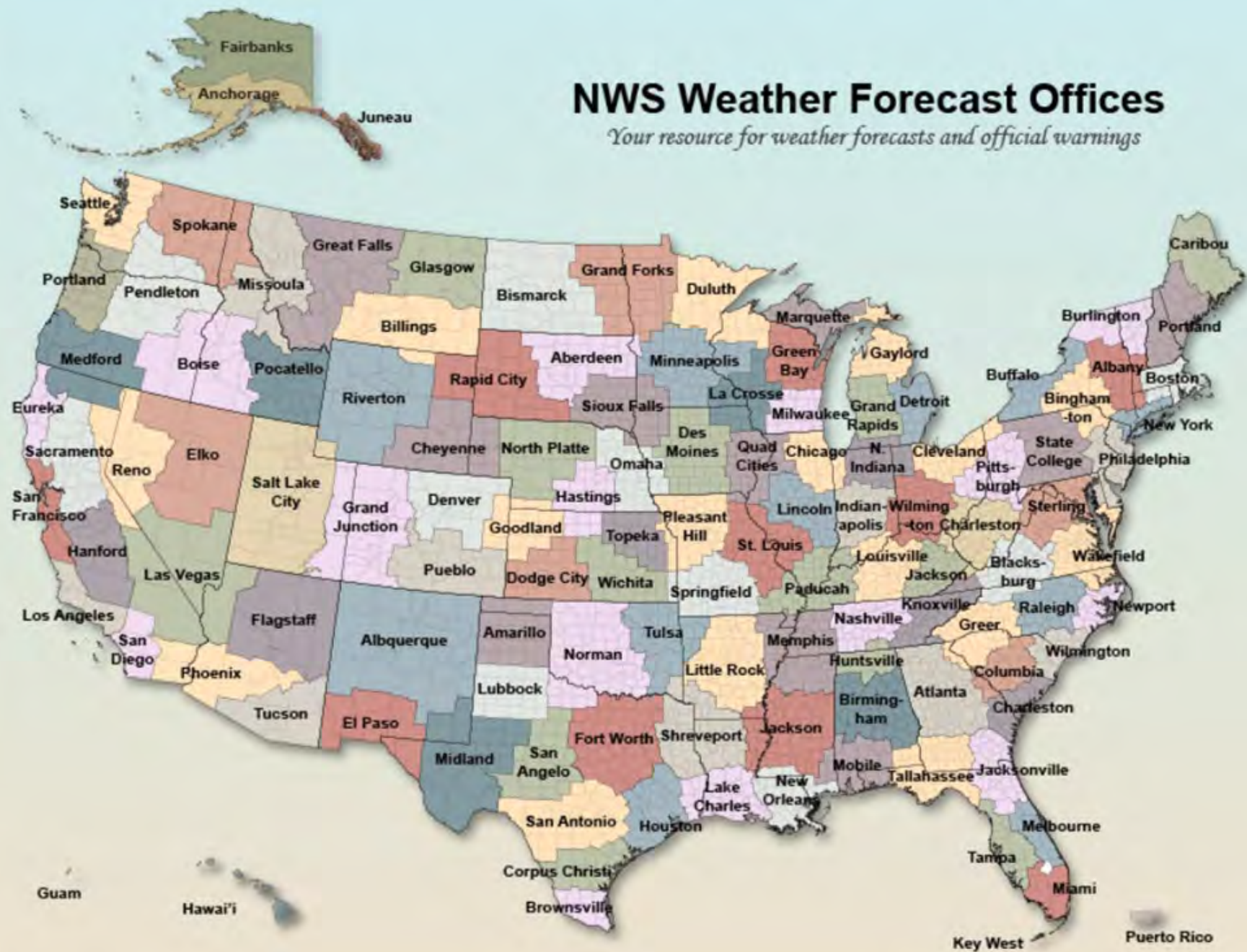
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# NWS Weather Forecast Offices

*Your resource for weather forecasts and official warnings*



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# What We Do

The National Weather Service provides weather, water, and climate data, forecasts, warnings, and impact-based decision support services (IDSS) for the protection of life and property and enhancement of the national economy.

Severe, winter and flood watches and warnings

Decision Support Services for emergency managers

Heat and cold alerts

General Public forecasts

Aviation, fire weather and marine forecasts

River forecasts and warnings

Climate outlooks, data and trends

**Support for Underserved and Vulnerable Populations (UVPs)**

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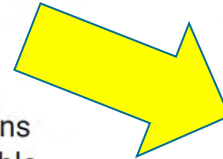
# NWS Has a Plan for Underserved and Vulnerable Populations (UVPs)



## Transform our Agency to meet current and future needs of society

Ensure the National Weather Service remains indispensable and a global leader in equitable weather, water, and climate services to build a Weather-Ready and Climate-Ready Nation.

- 3.1 **Enable** and **Empower** NWS personnel to provide weather, water, and climate services to decision makers anytime and anywhere (eye to eye objective).
- 3.2 **Adapt** the NWS operating model and staffing strategies to better align resources with shifting partner needs, workplace flexibility, and increased demand for Impact-based Decision Support Services (IDSS) at every level.
- 3.3 **Build** expertise and tools to increase our capacity to understand, interpret, and communicate risk-based/probabilistic information to drive probabilistic IDSS.
- 3.4 **Accelerate** transition from product and service development to deployment with rapid prototyping, operations proving grounds, and testbeds.
- 3.5 **Streamline** agency governance and change management processes to accelerate decision-making, enable organizational adaptability, maximize investment value, and link strategy to execution.



- 3.6 **Deliver** actionable inland and coastal water resource and inundation information across all time scales to address the growing risk of flooding, drought, and low water flow as well as immediate and long-range water management and planning.
- 3.7 **Reduce** or **Eliminate** low-priority, low-use, and obsolete products and services to enable resources to be reallocated to new, innovative, sustainable, and high-impact products and services.
- 3.8 **Understand** and **Apply** the best social, behavioral, and economic sciences to clearly communicate information with communities in multiple languages and deliver equitable service for those historically underserved and socially vulnerable to attain the desired response to high impact events.
- 3.9 **Expand** public-private industry partnerships that fast-track weather Enterprise innovations and technology, strengthen relationships, promote equitable service, leverage outreach to vulnerable communities, and share best practices to focus on continuous improvements.

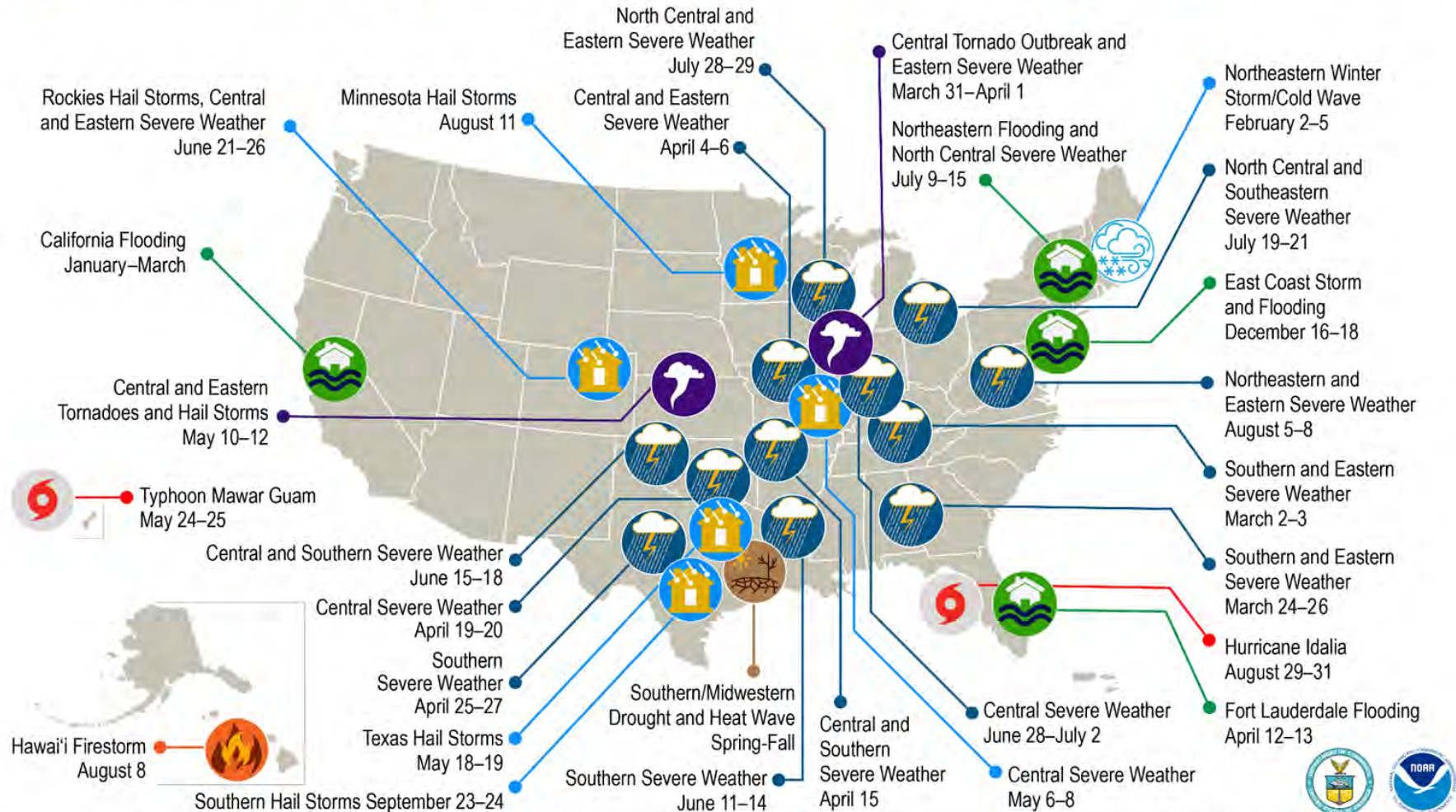




# Weather Impacts Becoming More Significant

## U.S. 2023 Billion-Dollar Weather and Climate Disasters

- Drought/Heat Wave
- Flooding
- Hail
- Hurricane
- Severe Weather
- Tornado Outbreak
- Wildfire
- Winter Storm/Cold Wave



This map denotes the approximate location for each of the 28 separate billion-dollar weather and climate disasters that impacted the United States in 2023.



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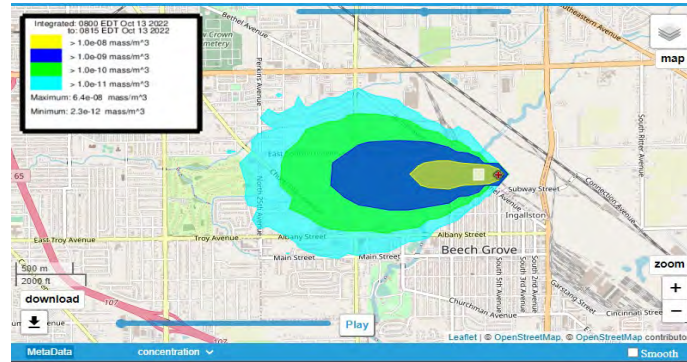


# Impact-Based Decision Support Services (IDSS)

## Giving Decision Makers the Weather Information They Need



Exercises and Planning



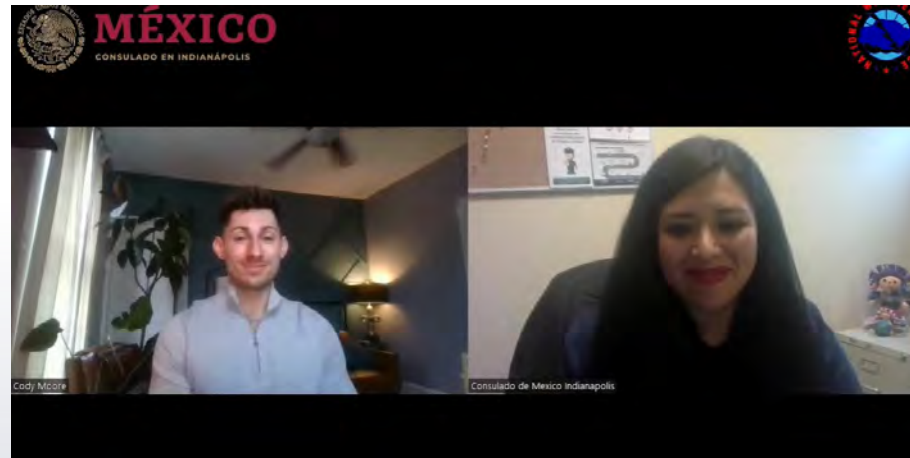
Hazardous Plume Guidance



Remote DSS



SEOC Activation



Translating Weather Products for UVPs



Onsite DSS

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# National Weather Service Equitable Weather Messaging and Community Engagement with Underserved and Vulnerable Populations

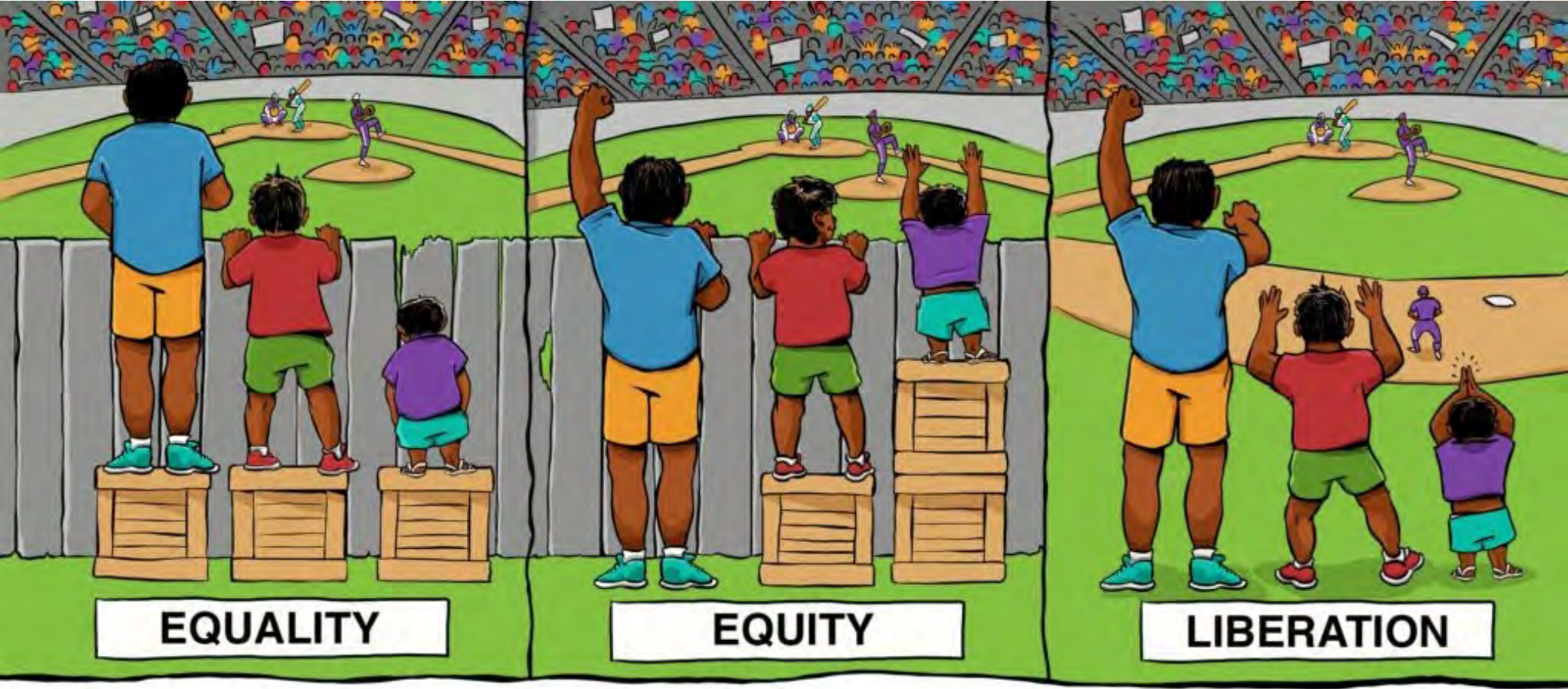


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# Equality vs. Equity



the4thbox.com



Interaction Institute  
for Social Change

Original illustration  
by Angus Maguire

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# Underserved and Vulnerable Populations

Groups that have limited or no access to resources or that are otherwise disenfranchised. These groups may include people who are **socioeconomically disadvantaged** ; people with **limited English proficiency** ; **geographically isolated** or **educationally disenfranchised** people; **people of color** as well as those of **ethnic and national origin minorities** ; **women and children** ; **individuals with disabilities** and others with access and functional needs; and **seniors** .

*FEMA.gov Glossary Section: NDRF - National Disaster Recovery Framework*



# By the *Numbers*

**1.25 million** people in the U.S. experienced sheltered homelessness at some point in 2020 (USICH)

**25.7 million** people in the U.S. had limited English proficiency in 2021 (KFF)

**37.9 million** people in the U.S. were living in poverty in 2022 (ACS)

**42.5 million** people in the U.S. had a disability in 2021 (ACS)

The mortality rate associated with extreme weather is **1.87x higher** among Black people and **7.34x higher** among Indigenous people (Sharpe & Wolkin, 2021)





## *A Weather-Ready Nation for All? The Demographics of Severe Weather Understanding, Reception, and Response*

“It is crucial that severe weather risk communication is received, appropriately interpreted, and trusted by all communities—especially the most vulnerable. Past research has not explained how different racial and socioeconomic groups receive, understand, and act upon NWS forecasts and warnings. This study finds that racial and socioeconomic groups receive, understand, trust, and act upon severe weather information differently. Risk communication strategies should be adjusted to eliminate barriers that keep important, lifesaving information from vulnerable populations.”

(Smith et al., 2023)



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# NWS Objectives



- ❖ Connect and build trust with our community
- ❖ Hear their feedback on our current informational products
- ❖ Learn how hazardous weather affects the operations and constituents of various organizations
- ❖ Find gaps in communication
- ❖ Brainstorm solutions and develop shared goals
- ❖ Inviting diverse perspectives → Saving more lives!

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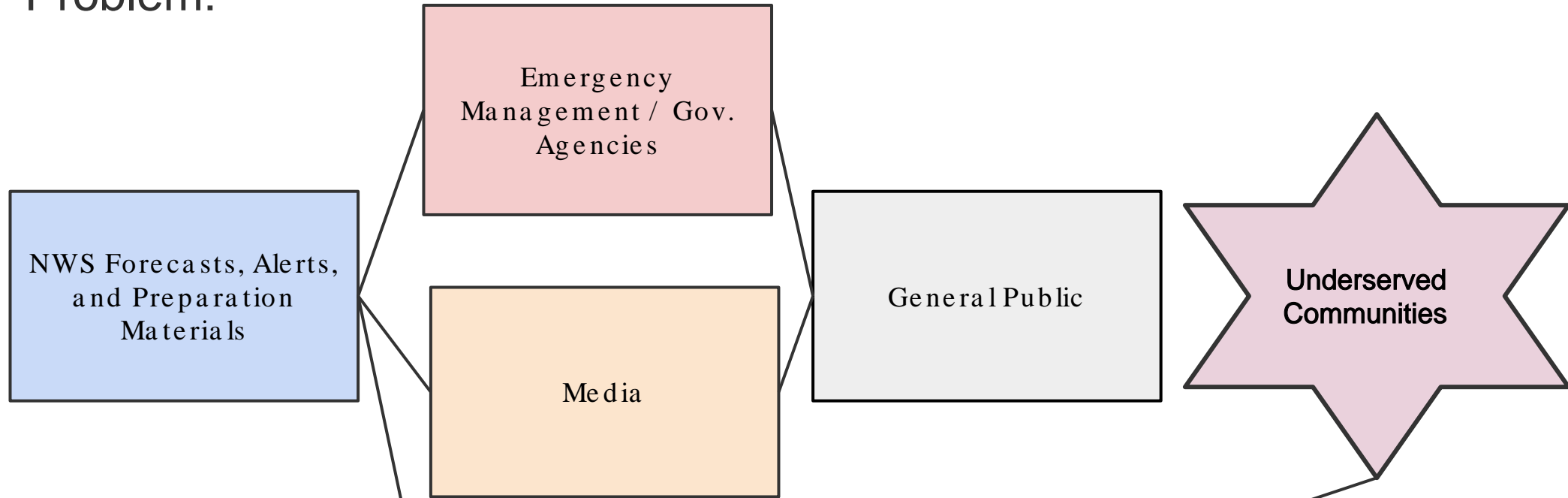




# Engaging Underserved



Problem:



Solution:



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# Engaging Underserved

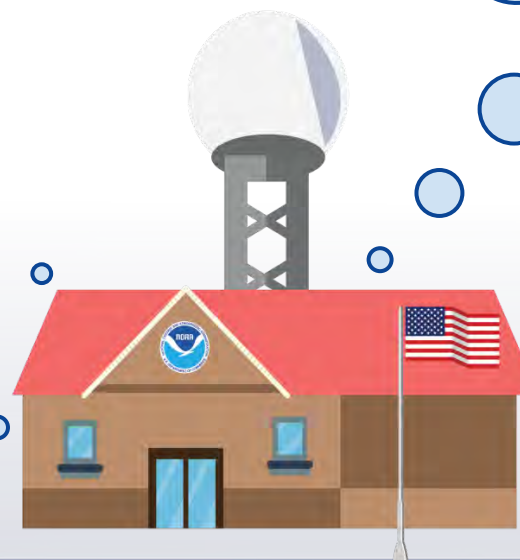


## Service Equity Team (SET) Conferences

Hold an annual conference, create a Service Equity Team, and put more boots on the ground

Meet with individual groups & hold conferences for specific communities

Empower community organizations with weather information to be force multipliers



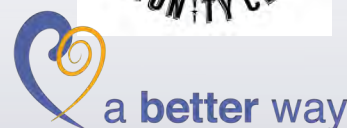
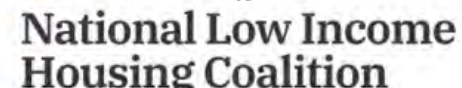
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# Takeaways from NWS Indianapolis First Service Equity Team Conference

- ❖ HUGE step towards achieving service equity
- ❖ Many new connections made and many more to come
- ❖ Leaving a lasting impact with tangible resources
- ❖ Making underserved communities feel seen and respected through inclusion
- ❖ Shorter, more topic focused annual conferences
- ❖ **Heat was the number 1 concern for UVPs**





# Most dangerous weather event types in 2023

## ➤ Weather event types causing the most **deaths** in 2023:

1. Heat  
**294 deaths**



2. Wildfire  
**105 deaths**



3. Tornado  
**91 deaths**



## ➤ Weather event types causing the most **injuries** in 2023:

1. Heat  
**1,862 injuries**



2. Tornado  
**955 injuries**



3. Winter weather  
**230 injuries**



Source: National Oceanic and Atmospheric Administration - National Centers for Environmental Information. Downloaded on June 25, 2024 from <https://www.ncei.noaa.gov/stormevents/ftp.jsp> and <https://www.ncei.noaa.gov/billions/events> and <https://www.ncei.noaa.gov/access/billions/events>.

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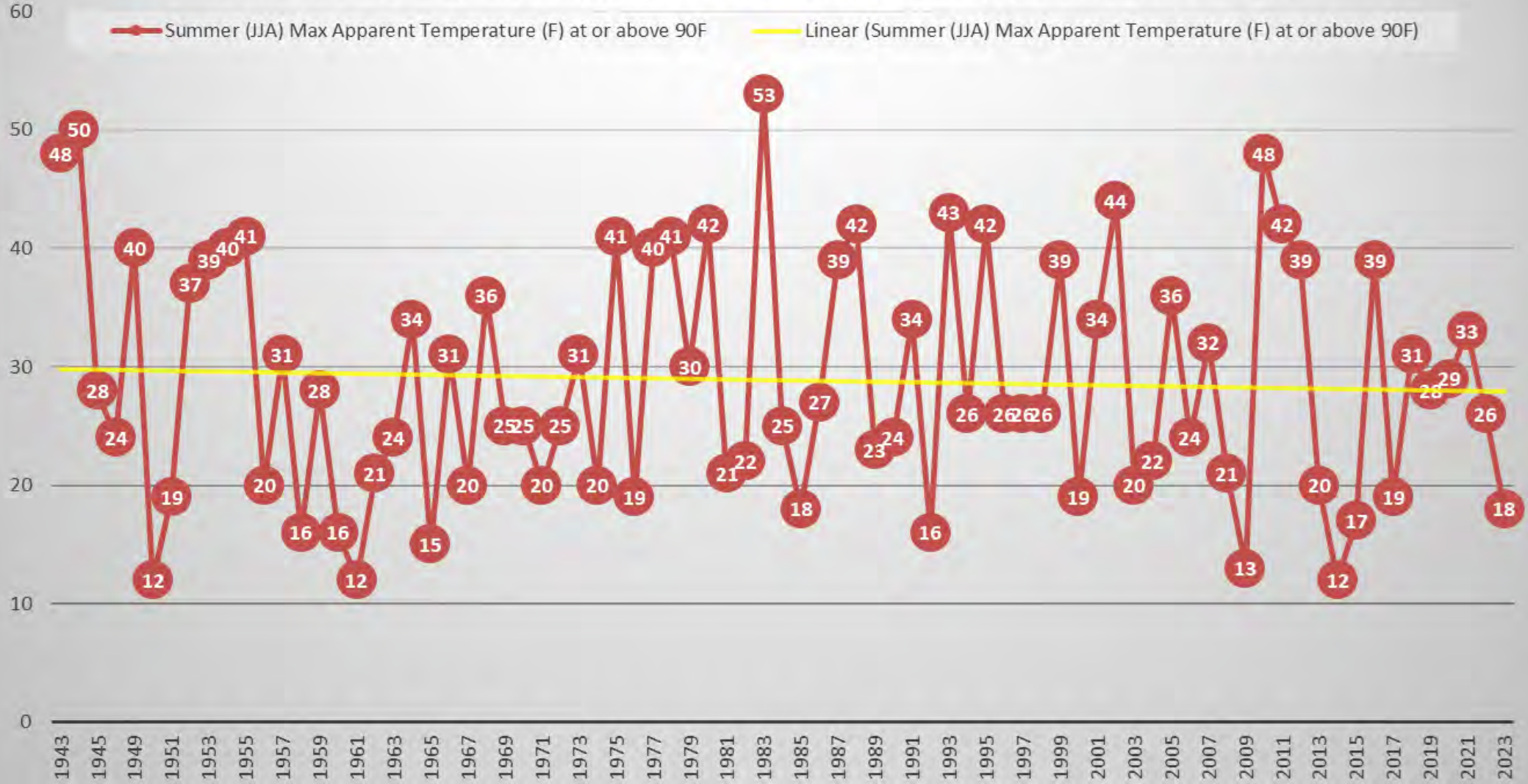


# Summer Heat

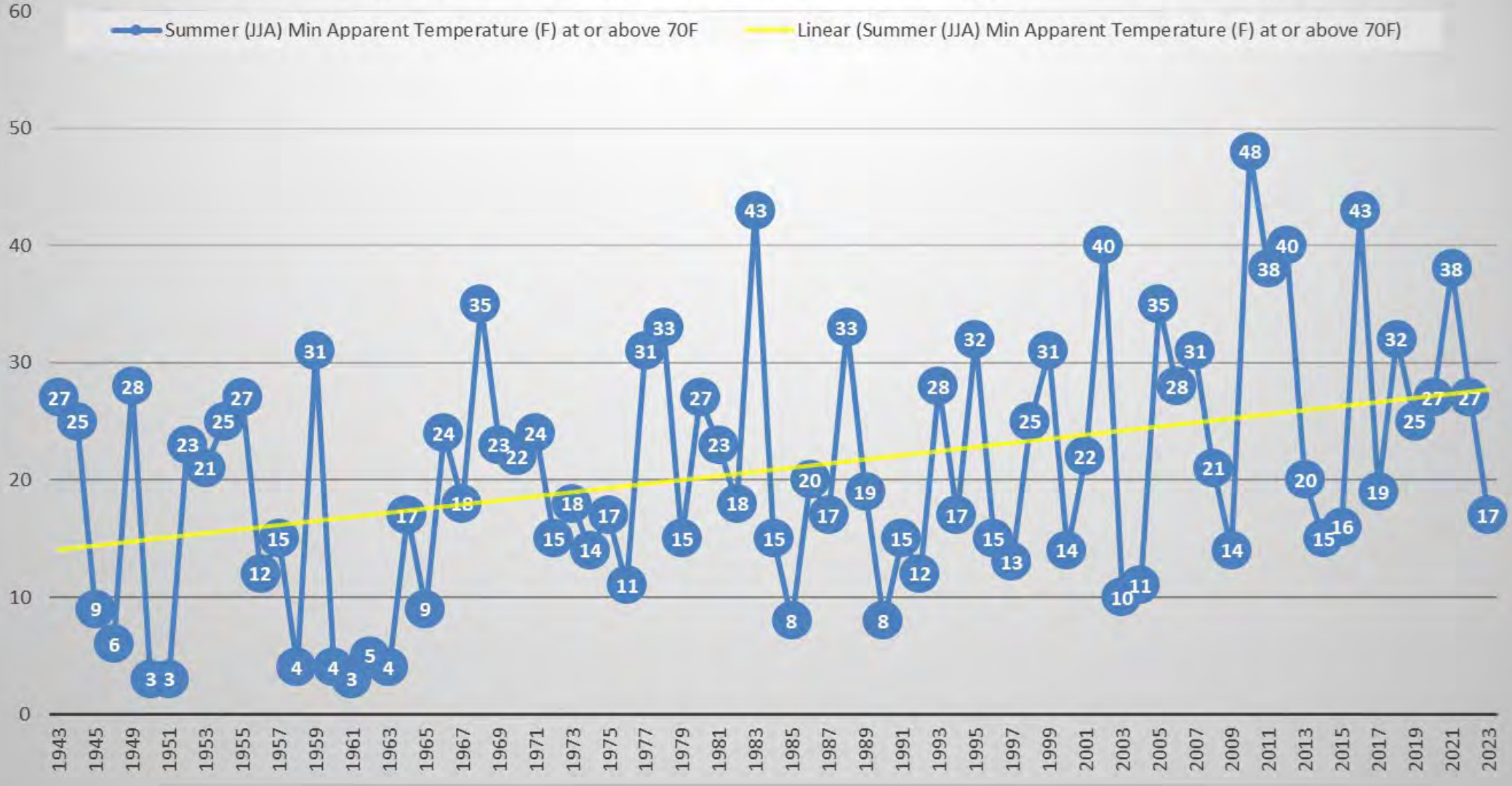
- Excessive heat is the **number one** weather-related cause of death in the United States each year.
- NWS Offices play a critical role in **heat messaging**:
  - Public products (Heat Advisory, Excessive Heat Warning)
  - Decision Support to partner agencies
- Since 1991, heat products have been primarily guided by fixed threshold values of the **NWS Heat Index**
  - Are there better metrics we can use?
  - Can we better guide our decision making with health impact data?



# Summer (JJA) Max Apparent Temperature (F) at or above 90F



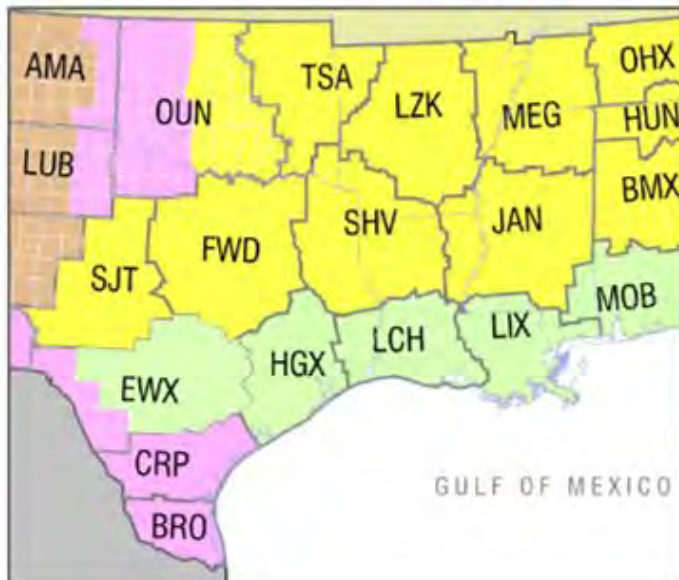
# Summer (JJA) Min Apparent Temperature (F) at or above 70F



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# The Current State of NWS Heat Messaging



- NWS heat products are based on fixed local thresholds of the Heat Index (HI) and/or temperature.
- HI was initially developed in 1991 based off of initial Apparent Temperature model from the early 1970s.
- **HI Pros:** easy to calculate from NWS observations, understandable to the public
- **HI Cons: Many assumptions!**
  - Constant wind of 5 knots (~6 mph)
  - Taken in the shade
  - No solar radiation parameters

NWS Heat Index		Temperature (°F)															
		80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
Relative Humidity (%)	40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
	45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	136	142
	50	81	83	85	88	91	95	99	103	108	113	118	124	130	136	142	148
	55	81	84	86	89	93	97	101	106	112	117	124	130	136	142	148	154
	60	82	84	88	91	95	100	105	110	116	123	129	136	142	148	154	160
	65	82	85	89	93	98	103	108	114	121	128	136	142	148	154	160	166
	70	83	86	90	95	100	105	112	119	126	134	142	148	154	160	166	172
	75	84	88	92	97	103	109	116	124	132	140	148	154	160	166	172	178
	80	84	89	94	100	106	113	121	129	138	146	154	160	166	172	178	184
	85	85	90	96	102	110	117	126	134	144	152	160	166	172	178	184	190
	90	86	91	98	105	113	122	131	140	150	158	166	172	178	184	190	196
95	86	93	100	108	117	127	136	146	156	166	174	180	186	192	198	204	
100	87	95	103	112	121	131	141	151	161	171	180	186	192	198	204	210	

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

■ Caution   
 ■ Extreme Caution   
 ■ Danger   
 ■ Extreme Danger



# Wet Bulb Globe Temperature (WBGT)

More Representative than Heat Index

WBGT / RISK	IMPACTS	ACTIONS
80-85 F / Low	Body stressed after 45 minutes	Take at least 15 minutes of breaks each hour if working or exercising in direct sunlight, Stay hydrated.
85-88 F / Moderate	Body stressed after 30 minutes. HEAT CRAMPS likely (painful contraction of muscles, weakness)	Take at least 30 minutes of breaks each hour if working or exercising in direct sunlight. Drink ½ to 1 quart of water per hour.
88-90 F / High	Body stressed after 20 minutes. HEAT EXHAUSTION likely (dizziness, nausea, vomiting, headache, fainting, disorientation, weakness)	Take at least 40 minutes of breaks each hour if working or exercising in direct sunlight. Reduce work, exercise intensity. Drink up to 1 quart of water per hour.
> 90 F / Extreme	Body stressed after 15 minutes. HEAT STROKE likely (extremely high body temp, confusion, convulsions, unconsciousness, death)	Take at least 45 minutes of breaks each hour if working or exercising in direct sunlight. Suspend all strenuous outdoor activities. Drink at least 1 quart of water per hour.

Adapted from U.S Army and OSHA guidelines and recommendations

- Tied to specific impacts & recommendations.
- Takes more factors into account than NWS HI
- Colored categories can be advantageous to message and interpret.



# NWS Heat Risk Tool

<https://www.wpc.ncep.noaa.gov/heatrisk/>

- NWS HeatRisk is an experimental color-numeric-based index that provides a forecast risk of heat-related impacts over a 24-hour period
- HeatRisk takes into consideration:
  - How unusual the heat is for the time of the year
  - The duration of the heat including both daytime and nighttime temperatures
  - If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC
- This index is supplementary to official NWS heat products and is meant to provide risk guidance for those decision makers and heat-sensitive populations who need to take actions at levels that may be below current NWS heat product levels.

## Heat Sensitive Groups

- The elderly and the very young
- Those on certain medications and/or those with preexisting conditions which make them more sensitive to heat (your doctor can let you know if this is you)
- Those working outdoors - especially new workers, temporary workers, or those returning to work after a week or more off
- Those exercising or doing strenuous activities outdoors during the heat of the day - especially those not used to the level of heat expected, those who are not drinking enough fluids, or those new to that type of activity
- Those without a reliable source of cooling and/or hydration
- Those not acclimated to the level of heat expected - especially those who are new to a much warmer climate

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# NWS Heat Risk Tool

<https://www.wpc.ncep.noaa.gov/heatrisk/>



## NWS HeatRisk

Identifying Potential Heat Risks in the Seven Day Forecast

Mon 5/20	<b>Tue 5/21</b>	Wed 5/22	Thu 5/23	Fri 5/24	Sat 5/25	Sun 5/26
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Click map for potential heat risks and NWS forecast for a location.

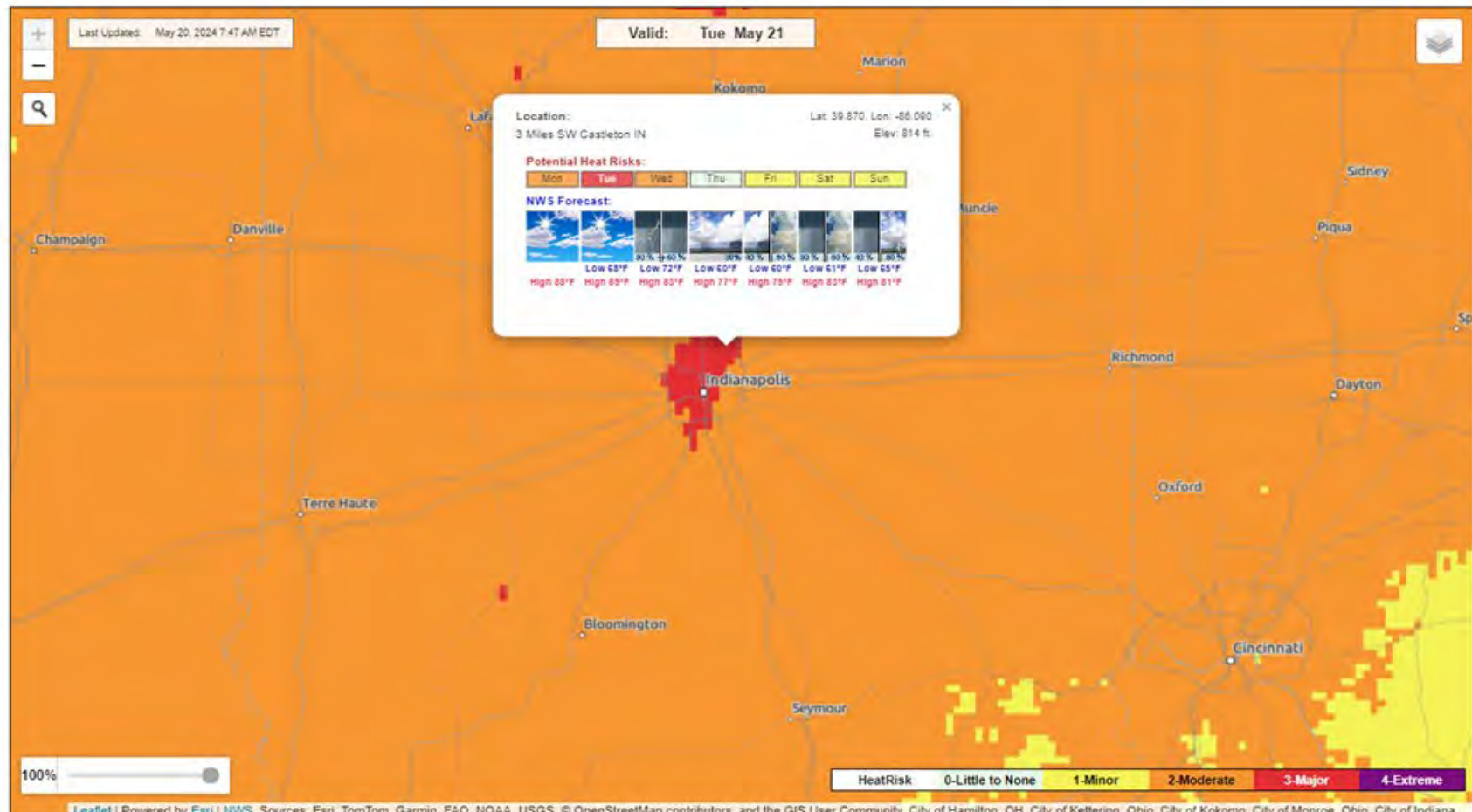
The NWS HeatRisk is an experimental color-numeric-based index that provides a forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk takes into consideration:

- How unusual the heat is for the time of the year
- The duration of the heat including both daytime and nighttime temperatures
- If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC

This index is supplementary to official NWS heat products and is meant to provide risk guidance for those decision makers and heat-sensitive populations who need to take actions at levels that may be below current NWS heat product levels.

Category	Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

[Comments? Questions? Please Contact Us.](#)







# What is Heat Risk?

May 20, 2024

1:49 PM

Unseasonably hot and humid conditions may impact sensitive and vulnerable groups Tuesday

## Heat Risk Tool

The NWS HeatRisk is an experimental color-numeric based index that provides a forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk takes into consideration:

- How unusual the heat is for the time of year
- Duration of the heat including both daytime and nighttime temperatures
- If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC

## Safety Tips



### Hydrate

drink before you are thirsty



### Wear Light Clothing

lightweight and light colored



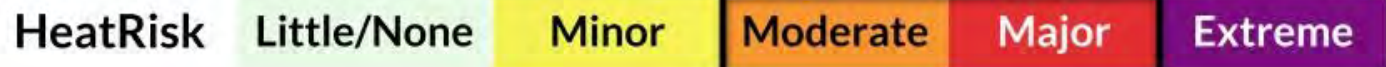
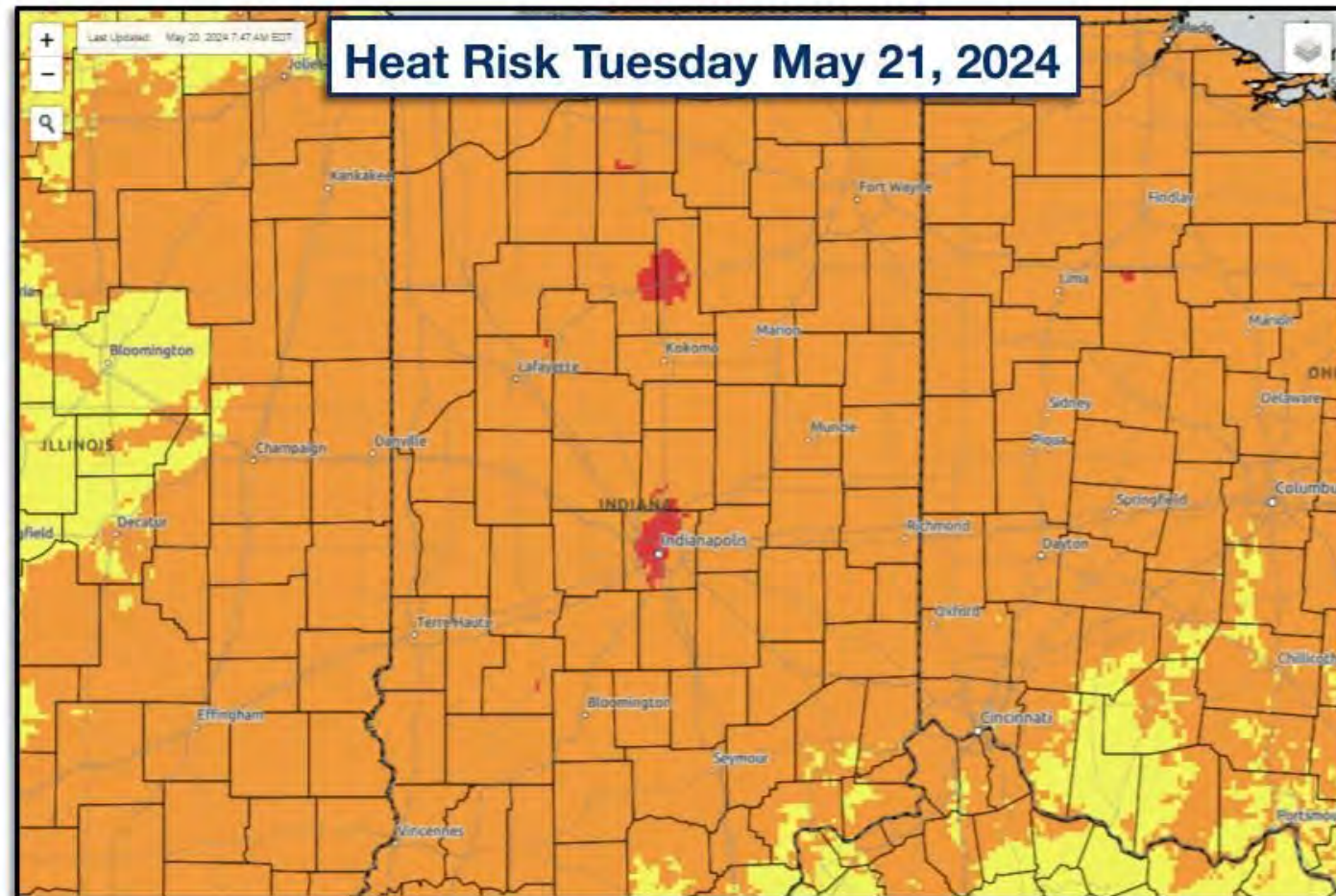
### Take Frequent Breaks

in air conditioning or shade



### Shift Outdoor Activities

away from 10am to 4pm



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

[www.wpc.ncep.noaa.gov/heatrisk/](http://www.wpc.ncep.noaa.gov/heatrisk/)

National Weather Service  
Indianapolis, Indiana

# Moderate Heat Risk Today

Unseasonably Hot and Humid Conditions Expected

extreme

major

**moderate**

MODERATE risk of heat-related illness for those sensitive to heat without protective action

minor

little/none

**Heat Risk**



National Weather Service · Indianapolis, IN  
[weather.gov/ind](https://weather.gov/ind)

Updated: Tue May 21, 2024 5:03 AM



→ High Temps: upper 80s to near 90°

→ Low Temps: upper 60s to near 70°



## All of Central Indiana



**Hydrate**

*drink before you are thirsty*



**Avoid Outdoor Activities**

*between 10am and 8pm*



**Wear Light Clothing**

*lightweight and light colored*



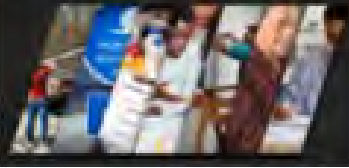
**Stay in Air Conditioning**

*especially during the day*

# Websites and Tools for Decision Makers

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## Customize Your Weather.gov

Enter Your City, ST or ZIP Code

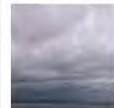
 Remember Me[Privacy Policy](#)

Created: 10/07/21 at 20:03 UTC



Current conditions at  
**Glasgow, Glasgow Municipal Airport (KGLW)**

Lat: 37.03°N Lon: 85.95°W Elev: 715ft



Overcast  
**61°F**  
16°C

Humidity 71%  
Wind Speed W 3 mph  
Barometer 30.13 in  
Dewpoint 52°F (11°C)  
Visibility 10.00 mi  
Last update 4 May 1:15 pm CDT

More Information:  
[Local Forecast Office](#)  
[More Local Wx](#)  
[3 Day History](#)  
[Mobile Weather](#)  
[Hourly Weather Forecast](#)

Extended Forecast for  
**Mammoth Cave KY**

This  
Afternoon



Partly Sunny

High: 69 °F

Tonight



Partly Cloudy

Low: 53 °F

Thursday



Partly Sunny  
then Chance  
T-storms

High: 78 °F

Thursday  
Night



Showers

Low: 64 °F

Friday



Showers then  
T-storms

High: 76 °F

Friday  
Night



Chance  
T-storms

Low: 58 °F

Saturday



Chance  
Showers

High: 68 °F

Saturday  
Night



Partly Cloudy

Low: 54 °F

Sunday



Mostly Sunny

High: 78 °F

# Prototype IDSS Point Forecasts

✓ Enter latitude / longitude location like this: 43.44, -90.75

Search Map...

<http://weather.gov/forecastpoints>

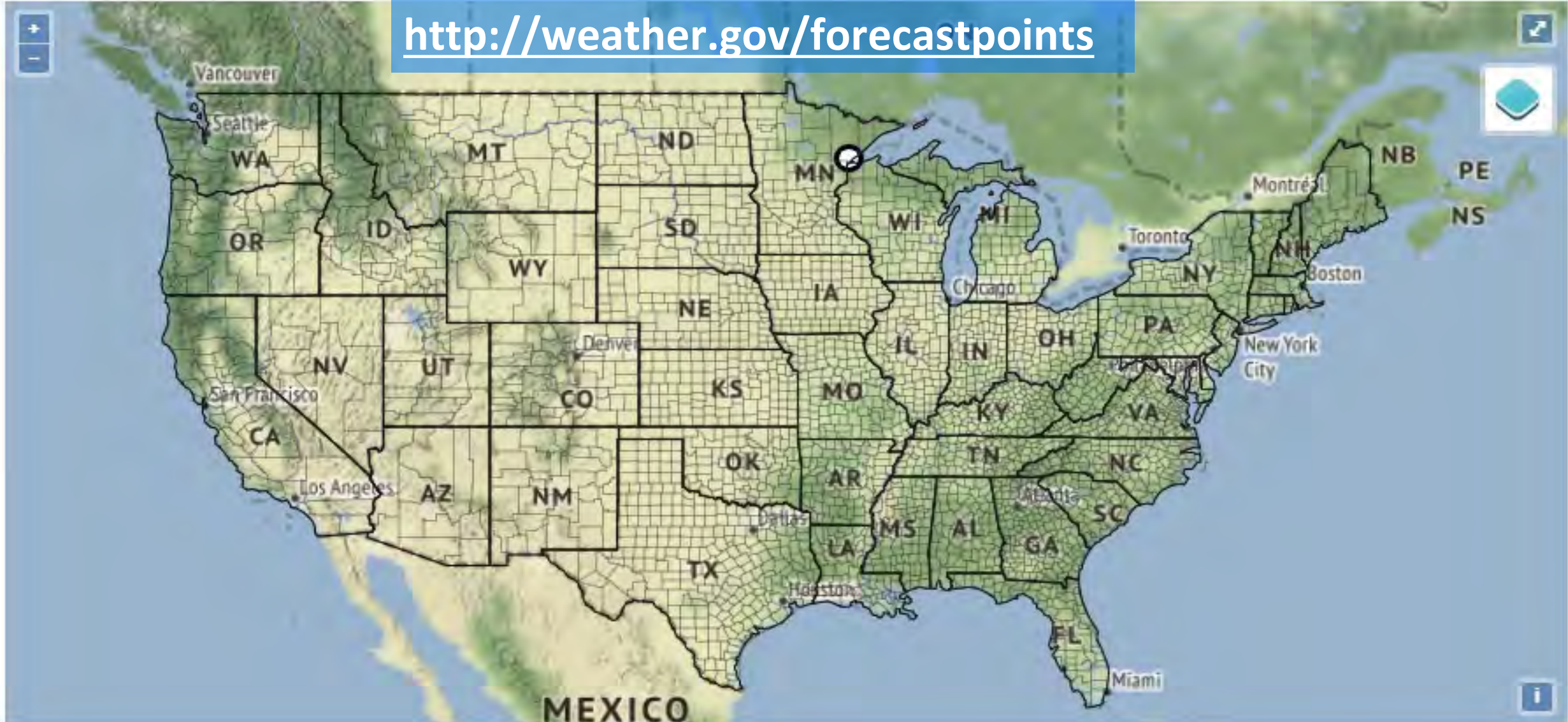


Table updated: 1115 am EDT Thu. 5/23/2024 (Last Update: 34 minutes ago)

[Click for Text Forecast](#)

[IND Forecast Discussion](#)

2 miles W of Indianapolis city (balance), IN

**Weekly Summary**

	Thu May 23	Fri May 24	Sat May 25	Sun May 26	Mon May 27	Tue May 28	Wed May 29
Max Temp, °F	80	84	83	80	73	74	73
Min Temp, °F	70	64	67	64	62	58	58
Max Heat Index, °F	80	86	82	83	72	73	73
Max Wind, mph	7	9	7	10	13	13	12
Min Wind, mph	3	2	2	3	7	6	6
Max Wind Gust, mph	9	15	13	18	23	23	20
Max Prob. of Precip., %	27	63	63	80	77	44	24
Max Prob. of Thunder, %	27	52	45	54	54	25	21
Max Dew Point, °F	63	66	65	68	67	56	54
Min Dew Point, °F	53	62	57	56	56	54	52
Max RH, %	76	97	93	84	97	90	86
Min RH, %	46	53	41	67	57	51	48
Max Cloud Cover, %	67	57	71	79	66	50	31
Min Cloud Cover, %	23	33	12	36	29	23	16

**Outlooks**

Severe Thunderstorm

	Day 1	Day 2	Day 3
Severe Thunderstorm	Not Expected	<b>Slight</b>	Non-Severe Thunderstorms
Excessive Rainfall	Not Expected	Not Expected	Not Expected

Excessive Rainfall

<http://weather.gov/forecastpoints>

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## Hourly Table

Day of week:	Thursday 5/23												Friday 5/24				
Time:	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12AM	1AM	2AM	3AM
Weather:																	
Temperature (°F):	72	74	76	77	78	78	80	78	78	78	75	72	70	69	68	67	66
Heat Index, °F:	72	74	76	77	78	78	80	78	78	78	75	72	70	69	68	67	66
Wind Speed (mph):	7	7	7	7	7	6	6	6	5	5	5	3	3	3	2	2	2
Wind Gust (mph):	9	9	9	9	8	8	8	7	7	7	7	6	6	6	6	6	6
Wind Direction (°):	90	110	140	160	170	190	200	210	230	240	220	190	170	170	160	150	150
Wind Direction:	←	↙	↘	↗	↑	↗	↗	↗	↗	↗	↗	↑	↑	↑	↖	↖	↖
Prob. of Precip. (%):	25	19	19	27	27	25	21	21	21	6	4	2	2	1	1	0	0
Prob. of Thunder (%):	6	6	6	27	27	25	21	21	21	6	4	2	2	1	1	0	0
Precip. Amount (in.):		0.00					0.00					0.00					
Snow (in.):		0.0					0.0					0.0					
Ice (in.):		0.00					0.00					0.00					
Dew Point (°F):	53	53	54	55	56	57	58	58	59	60	63	63	62	62	63	62	63
RH (%):	50	49	47	46	46	48	48	49	51	55	66	73	76	78	84	84	90
Sky Cover (%):	61	67	59	60	50	46	54	57	60	45	31	27	23	28	33	36	39

✖ Configure Plot Order

✖ Configure Plot Look

<http://weather.gov/forecastpoints>

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## National Weather Service Safety Tips

[Weather.gov](#) > Safety

Safety  
National Program



[Air Quality](#)



[Beach Hazards](#)



[Cold](#)



[Drought Safety](#)



[Floods](#)



[Fog](#)



[Heat](#)



[Hurricanes](#)



[Lightning](#)



[Rip Currents](#)



[Safe Boating](#)



[Space Weather](#)



[Sun \(Ultraviolet Radiation\)](#)



[Thunderstorms](#)



[Tornado](#)



[Tsunamis](#)



[Wildfire](#)



[Wind](#)



[Winter Weather](#)

<https://www.weather.gov/safety/>

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# Heat Safety Tips and Resources

[Weather.gov](#) > [Safety](#) > Heat Safety Tips and Resources

Safety  
National Program

Heat Safety

Heat Watch vs.  
Warning

Heat Forecast  
Tools

During a Heat  
Wave

Heat Related  
Illnesses



## Heat Safety Resources

Heat Safety

Heat.gov

Children, Pets and Vehicles

Seasonal Safety Campaign

Ultraviolet (UV) Safety

Games and Activities for Kids

Survivor Stories

Education and Outreach

Links and Partners



Heat is one of the leading weather-related killers in the United States, resulting in over one thousand fatalities each year, per the CDC. Heat can be very taxing on the body; check out the [heat related illnesses](#) that can occur with even a short period of exposure. Everyone can be vulnerable to heat, but some more so than others. According to [The Impacts Of Climate Change On Human Health In The United States: A Scientific Assessment](#) the following groups are particularly vulnerable to heat; check in with friends and relatives who fall in one of these populations, especially if they don't have air conditioning.

Share Your Story

- **Young children and infants** are particularly vulnerable to heat-related illness and death, as their bodies are less able to adapt to heat than are adults.
- **Older adults**, particularly those with pre-existing diseases, take certain medications, are living alone or with limited mobility who are exposed to extreme heat can experience multiple adverse effects.
- **People with chronic medical conditions** are more likely to have a serious health problem during a heat wave than healthy people.
- **Pregnant women are also at higher risk.** Extreme heat events have been associated with adverse birth outcomes such as low birth weight, preterm birth, and infant mortality, as well as congenital cataracts.

It is **NEVER** safe to leave a child, disabled person or pet locked in a car, even in the winter. If you have a toddler in your household, lock your cars, even in your own driveway. Kids play in cars or wander outside and get into a car and can die in 10 minutes! **A reported 33 children died in hot cars in 2022. To see the latest information for 2023, go to this link.** Deaths routinely are reported as early as April and tragedies continue into December in southern states.

**NWS Safety information on Children, Pets and Vehicles:** Find out more about how cars can heat up quickly when left in the sun. Information and resources in both English and Spanish from the [National Highway Traffic Safety Administration](#).

This website is designed to prepare you for excessive heat events, describe what to do [during an excessive heat wave](#), and inform you about the [health dangers of heat](#). You also will find [educational materials](#) and fun [games and activities to help educate children](#) about the dangers of heat. [Spanish language outreach materials are also available.](#)

If you, or someone you know, have been a victim of excessive heat, please share your story as others have [here](#) so we can prevent others from becoming a heat victim. When you write, please note that NWS has permission to use your story and, if possible, let us know the town and state you were in and the year the event took place.

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## Seguridad Meteorológica (Weather Safety)

[Weather.gov](#) > [Weather-Ready Nation](#) > Seguridad Meteorológica (Weather Safety)

Weather-Ready Nation  
National Program

[Weather Hazards](#) [Safety Campaigns](#) [Ambassador](#) [Education](#) [Collaboration](#) [News & Events](#) [International](#) [About](#)

# SEGURIDAD CONTRA TORNADOS PARA PATRONOS



**Identifique los Lugares para Refugio:** Utilice habitaciones interiores pequeñas o pasillos en el nivel más bajo (lejos de ventanas y puertas).



**Asegure Responsabilidades:** Desarrolle un plan de respuesta de emergencias, un listado para asignar roles, y tome en cuenta a todas las personas en el lugar de trabajo.



### Gráficas Informativas (Infographics)



[Invierno](#)  
(Winter)



[Huracanes](#)  
(Hurricanes)



[Fuegos Forestales](#)  
(Wildfire)



[Inundaciones](#)  
(Floods)



[Calor](#)  
(Heat)



[Tornados](#)  
(Tornado)

### Planes para las Redes Sociales (Social Media Plans)



[Primavera](#)  
(Spring)



[Verano](#)  
(Summer)



[Otoño](#)  
(Fall)



[Invierno](#)  
(Winter)

<https://www.weather.gov/wrn/spanish>

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# NWS Product Translations

Comunicado Especial del Tiempo  
Servicio Nacional de Meteorología Houston/Galveston TX  
443 PM CDT miércoles 25 de septiembre de 2024

TXZ235-252215-  
Interior de Jackson TX-  
443 PM CDT miércoles 25 de septiembre de 2024

...UNA FUERTE TORMENTA ELÉCTRICA AFECTARÁ EL CENTRO DEL CONDADO DE JACKSON HASTA LAS 515 PM CDT...

A 443 PM CDT, el radar Doppler estaba monitoreando una fuerte tormenta eléctrica cerca de Edna, moviéndose al suroeste a 20 mph.

PELIGRO...[Ráfagas](#) de viento de hasta 50 mph y [granizo](#) de media pulgada.

FUENTE...Indicada por radar.

IMPACTO...Las [ráfagas](#) de viento podrían derribar ramas de árboles y hacer volar objetos no asegurados. Es posible daños menores a la vegetación por [granizo](#).

Lugares afectados incluyen... Edna y Morales.

ACCIONES DE PRECAUCIÓN/PREPARACIÓN...

Si está al aire libre, considere buscar refugio dentro de un edificio.

Special Weather Statement  
National Weather Service Houston/Galveston TX  
443 PM CDT Wed Sep 25 2024

TXZ235-252215-  
Inland Jackson TX-  
443 PM CDT Wed Sep 25 2024

...A STRONG THUNDERSTORM WILL IMPACT CENTRAL JACKSON COUNTY THROUGH 515 PM CDT...

At 443 PM CDT, Doppler radar was tracking a strong thunderstorm near Edna, moving southwest at 20 mph.

HAZARD...Wind gusts up to 50 mph and half inch [hail](#).

SOURCE...Radar indicated.

IMPACT...Gusty winds could knock down tree limbs and blow around unsecured objects. Minor [hail](#) damage to vegetation is possible.

Locations impacted include...  
Edna and Morales.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If outdoors, consider seeking shelter inside a building.

&&





# Lightning Safety Toolkits for Preparedness



**Outdoor Venue**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



**Golf Facility**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



**Wilderness Area**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



**Community**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



**Lifeguard and Beach Patrol**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



**Boating and Sailing**  
[Interactive Form](#) | [Download & Fill](#) (Word Doc)



## Lightning Resources

For the Media

Myths and Facts

Teachers

Kids and Teens

**Toolkits for Organizations, Venues**

Multimedia

Lightning Photos

Information, Brochures

International, Links, Partners

[www.weather.gov/safety/lightning](http://www.weather.gov/safety/lightning)

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# NWS Chat for Emergency Managers

- **Situational awareness tool tailored for:**

- Emergency managers
- Other public safety officials
- News media
- Skywarn Net Control Operators

- **Provides a direct, two way operational communication link with NWS meteorologists for information exchange during hazardous weather events**



 **NWS - Chicago - Lee Carlaw** 5:41 AM  
Good morning! Here are the bullet points for the update forecast today with the associated graphics:

- Burst of snow is currently developing across NW IL and will expand eastward through 9-10AM, mainly either side and N of I-90. Slick spots will likely develop, particularly on bridges where road temps are below freezing. Temps warm above freezing everywhere through 10-11 AM.
- Snow showers and squalls develop, first near RFD around 10 AM, and spread SE from there through the afternoon. Sharp visibility drops under 1 mile and gusty winds will accompany the strongest squalls. With temps above freezing, road impacts should be minimal, with any accum (on grass) melting as soon as the snow intensity eases.
- Final burst of snow appears possible across NE IL this evening, but we're uncertain on intensity and coverage. If this materializes, rates near 1"/hr would overcome above-freezing road temps leading to snow coated roads for part of the evening commute. Lake effect snow focuses into NW Indiana overnight, with slushy accums expected away from the immediate lakefront. Some increased concern for localized 1-2"/hr rates now as well. We'll need to assess whether short-fused Winter Weather Advisories will be needed for both of these areas today.

The Slack platform also facilitates sharing of photos and videos for ground truth!



<https://partnerservices.nws.noaa.gov/registration/>

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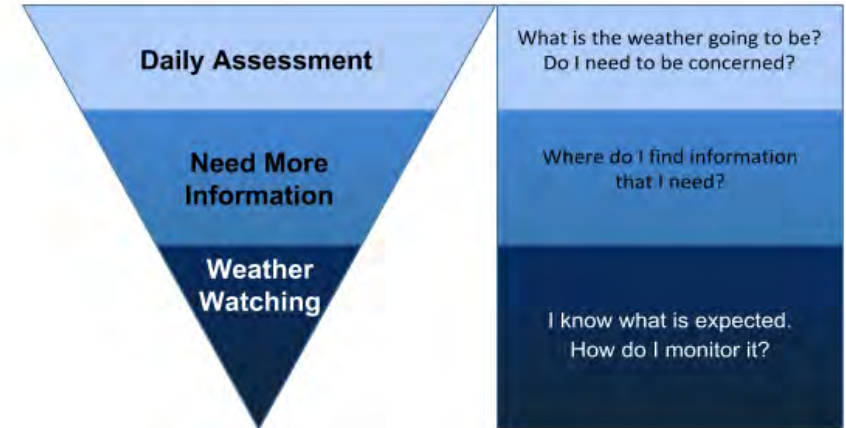




# Event Ready / Weather Watcher Exercise

- **HSEEP Exercise Training**
  - EMA, healthcare safety managers, school officials, public safety, parks dept, DOT, law and fire, etc
- Learn about event-specific thresholds and weather decisions
- How to compute evacuation times and when to implement action plans
- Tools and resources to make decisions
- Currently only available from certain NWS offices

Weather Evaluation Concept




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





# Graphical Forecasts and Decision Support Services (DSS) Packets

**Coastal & Marine Hazards Today**  
Tuesday, October 22, 2024



- ⚠️ A High Risk** of rip currents and very rough surf at area beaches
- Northeast winds 15-20 mph with gusts up to 30 mph 
- A Small Craft Advisory remains in effect across the adjacent Atlantic waters 
- Residents and visitors are strongly urged to stay out of the surf.

**WEATHER FORECAST OFFICE**  
Melbourne Florida  
Visit [weather.gov/melbourne](http://weather.gov/melbourne)

## “Graphiccasts” issued when needed


- Updated every couple hours
- Details on current event, timing, duration, amounts over next few hours





## DSS Packets Issued for More Impactful Storms

- Updated about every 12 hours
- Details on timing, duration, amounts for overall event

**High Confidence in Severe Weather** June 18, 2021 5:40 PM  
Lower Confidence on Timing and Exact Location of Most Intense Storms

**Overview**  
A few strong to severe thunderstorms have already occurred across northeastern portions of central Indiana. Additional thunderstorms are likely to develop this evening across central Indiana as a strong cap gradually weakens, with all hazards possible, but damaging winds are the highest threat this evening, with heavy rain and flooding becoming the primary threat overnight.



Severe Threats	 Tornado	Lo	Med	H
	 Hail	Lo	Med	H
	 Wind	Lo	Med	H
	 Flooding	Lo	Med	H

Potential for swaths of >70 mph winds

**General Thunder**  
Marginal  
Slight  
Enhanced  
Moderate  
High

NATIONAL WEATHER SERVICE  
Indianapolis, Indiana

Emailed to Core Partners and also available on local NWS Websites

[www.weather.gov/yyy](http://www.weather.gov/yyy)

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Near-Surface Smoke ( $\mu\text{g}/\text{m}^3$ )

<https://airquality.weather.gov/>

Hourly: Bias-corrected Ozone (PPB)

Thu

11 12 13 14 15 16 17 18  
F008 F008 F010 F012

Fri

19 20 21 22 23 00 01 02  
F014 F016 F018 F020

03 04 05 06 07 08 09 10  
F022 F024 F026 F028

11 12 13 14 15 16 17 18  
F030 F032 F034 F036

Sat

19 20 21 22 23 00 01 02  
F038 F040 F042 F044

03 04 05 06 07 08 09 10  
F046 F048 F050 F052

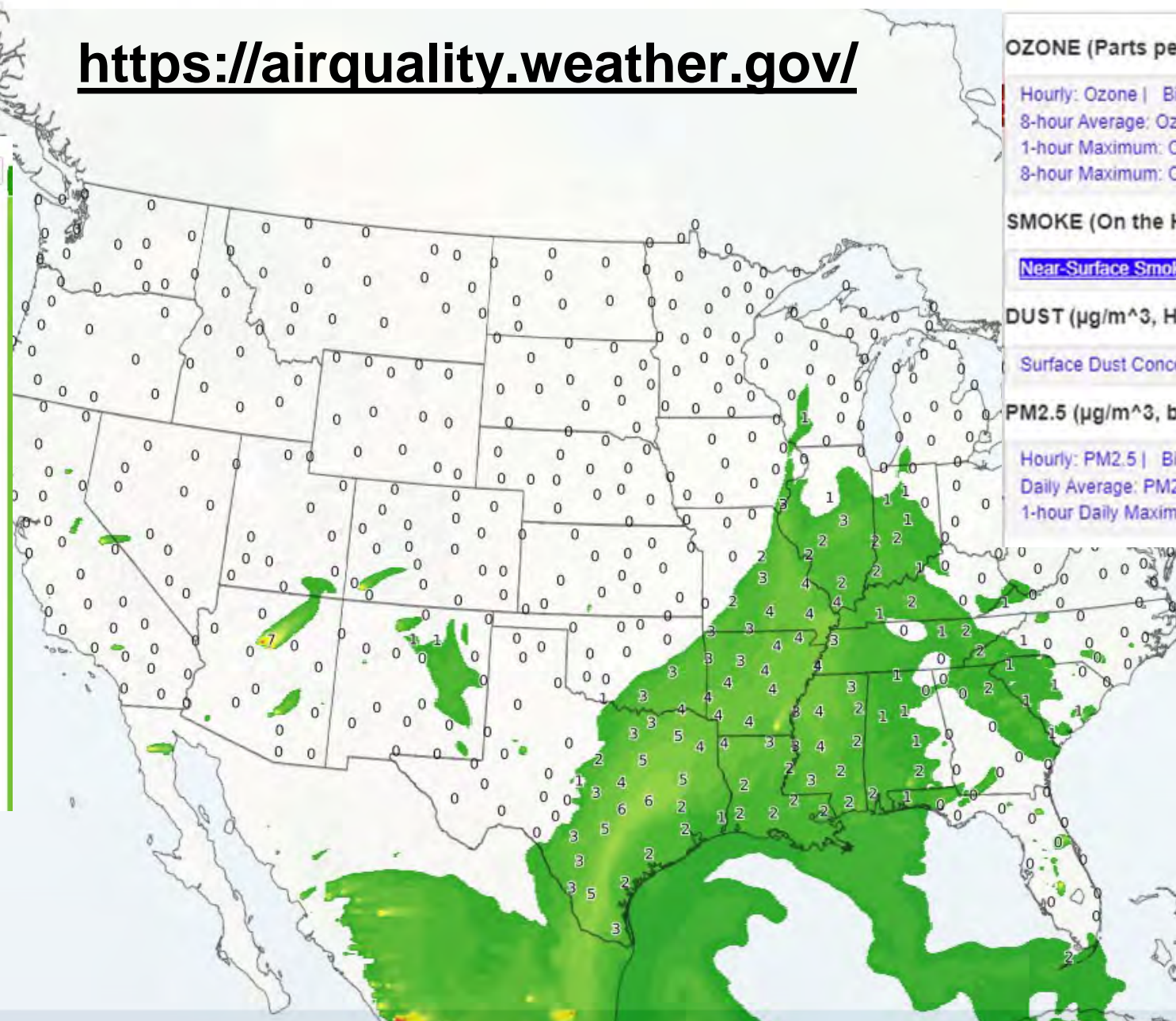
11 12 13 14 15 16 17 18  
F054 F056 F058 F060

Sun

19 20 21 22 23 00 01 02  
F062 F064 F066 F068

03 04 05 06  
F070 F072

005



OZONE (Parts per Billion (PPB), based on Hourly Averaged Values)

- Hourly: Ozone | Bias-corrected Ozone |
- 8-hour Average: Ozone | Bias-corrected Ozone |
- 1-hour Maximum: Ozone | Bias-corrected Ozone |
- 8-hour Maximum: Ozone | Bias-corrected Ozone |

SMOKE (On the Hour, Instantaneous Values)

- [Near-Surface Smoke \( \$\mu\text{g}/\text{m}^3\$ \)](#) | [Column-Integrated Smoke \( \$\text{mg}/\text{m}^2\$ \)](#) |

DUST ( $\mu\text{g}/\text{m}^3$ , Hourly Averaged Values)

- [Surface Dust Concentration](#) | [Lowest 5-km Dust Concentration](#) |

PM2.5 ( $\mu\text{g}/\text{m}^3$ , based on Hourly Averaged Values)

- Hourly: PM2.5 | Bias-corrected PM2.5 |
- Daily Average: PM2.5 | Bias-corrected PM2.5 |
- 1-hour Daily Maximum: PM2.5 | Bias-corrected PM2.5 |

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U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION



Home

Heat and Health Index

About the Data

Resources

Search

Contact Us



# Heat & Health Tracker

## Home

\*\*\*NEW HEAT AND HEALTH INDEX\*\*\* - Click on the "Heat and Health Index" (HHI) in the left navigation menu to access the HHI and learn more about the intersection of heat and health.

Heat poses significant and increasing risks to public health across the United States. Use this dashboard to explore your community's heat exposure, related health outcomes, and assets that can protect people during heat events.

[Search for location here](#)

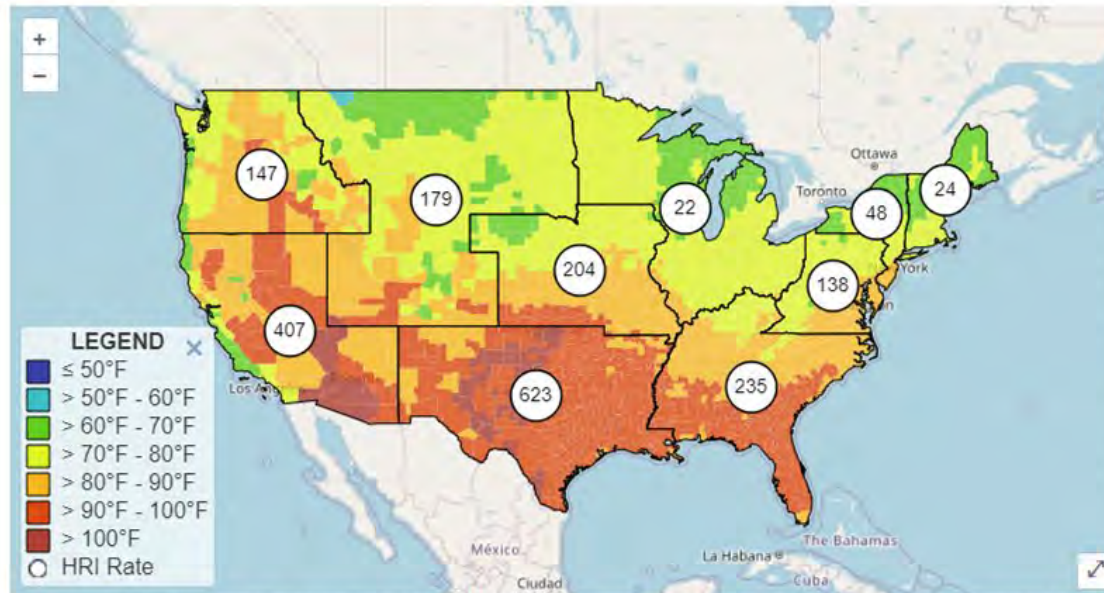
Enter zip or county here



**Daily Heat-Related Illness**

Weekly Heat-Related Illness

Heat and Worker Health



Choose a date  
6/8/2024



### About the Data

The Heat-Related illness and Temperature map shows the rate of emergency department (ED) visits associated with heat-related illness (HRI) per 100,000 ED visits by region (as defined by the U.S. Department of Health and Human Services) for the selected day using data available through the [National Syndromic Surveillance Program](#). The colors on the map show the average maximum temperature by county for the same day and year, using data from the National Center for Environmental Information. Note, the HRI data is updated daily and may adjust to become more accurate as more data comes in.

[\(more info\)](#)



This icon indicates that extremely high rates of heat-related illness were detected in the region. Extremely high rates of heat-related illness are defined as exceeding the 95th percentile based on data from 2018-2023.

## Daily Rates of Heat Related Emergency Department Visits by HHS Region

<https://ephtracking.cdc.gov/Applications/heatTracker/>

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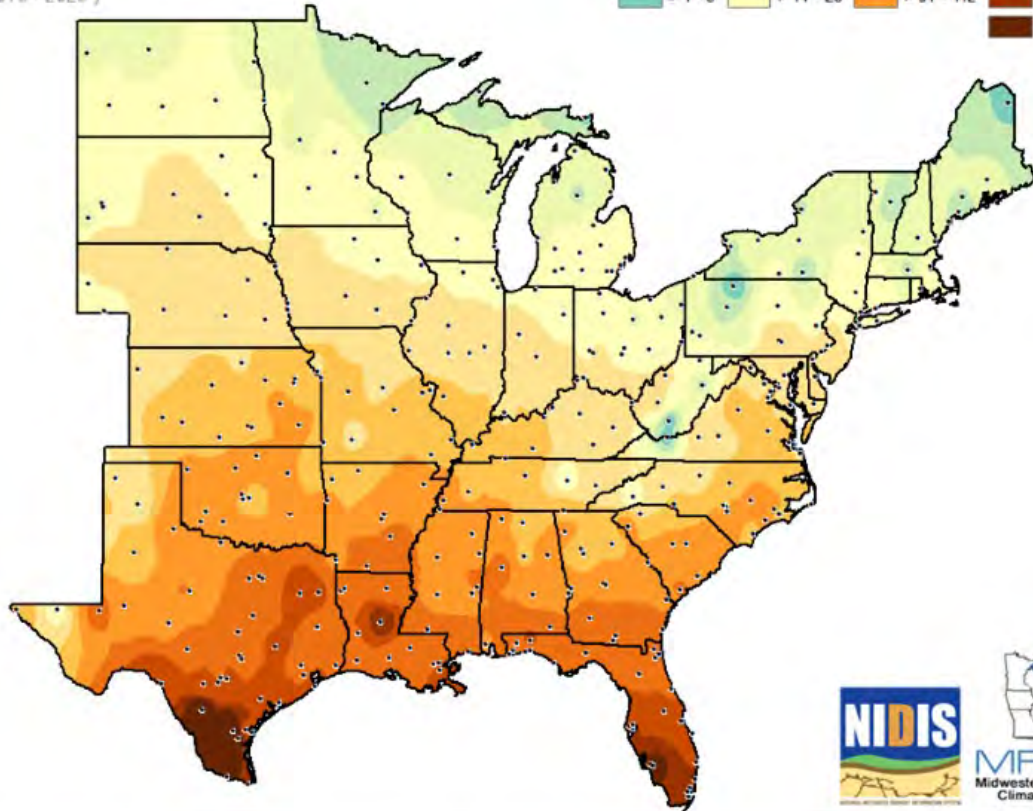
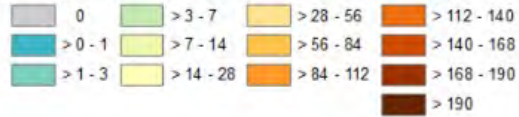


### Calendar year totals for the eastern half of the United States

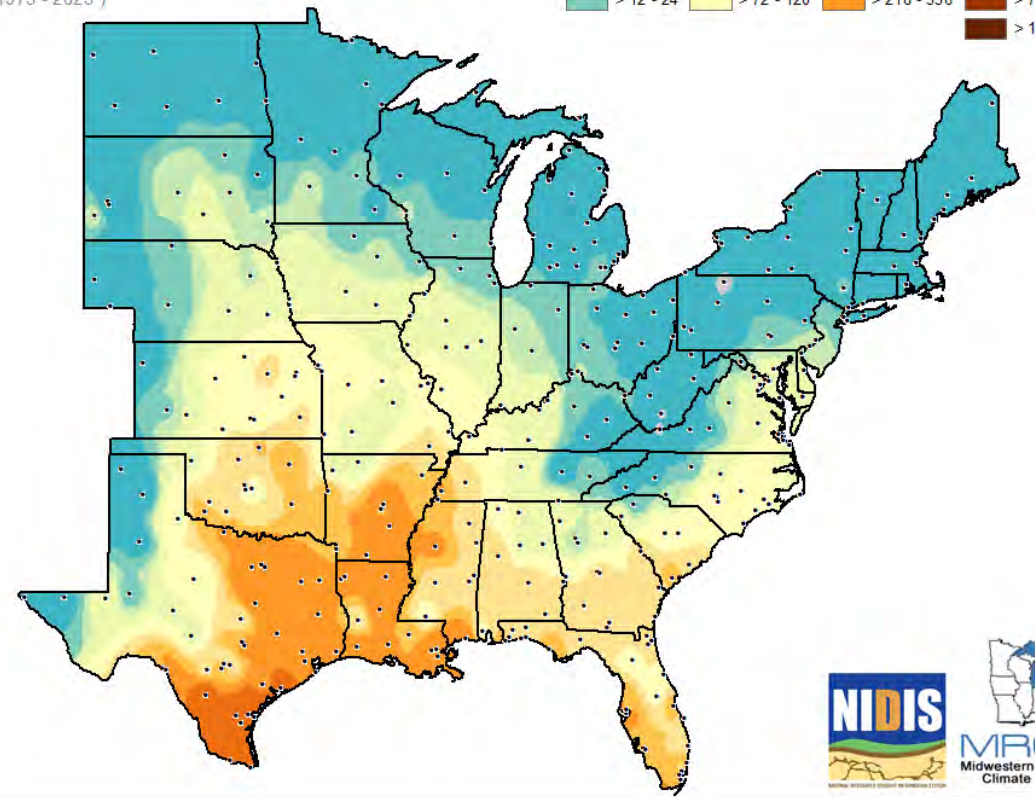
[Average Number of Days](#) | [Days with 3 or More Hours](#) | [Average Number of Hours](#)

AVERAGE NUMBER OF DAYS (roll mouse over degrees): [90°](#) | [95°](#) | [100°](#) | [105°](#) | [110°](#)

Annual Average # of Days with  $\geq 1$  Hour at Heat Index  $\geq 90^\circ\text{F}$   
(1973 - 2023)



Annual Average # of Hours with Heat Index  $\geq 100^\circ\text{F}$   
(1973 - 2023)

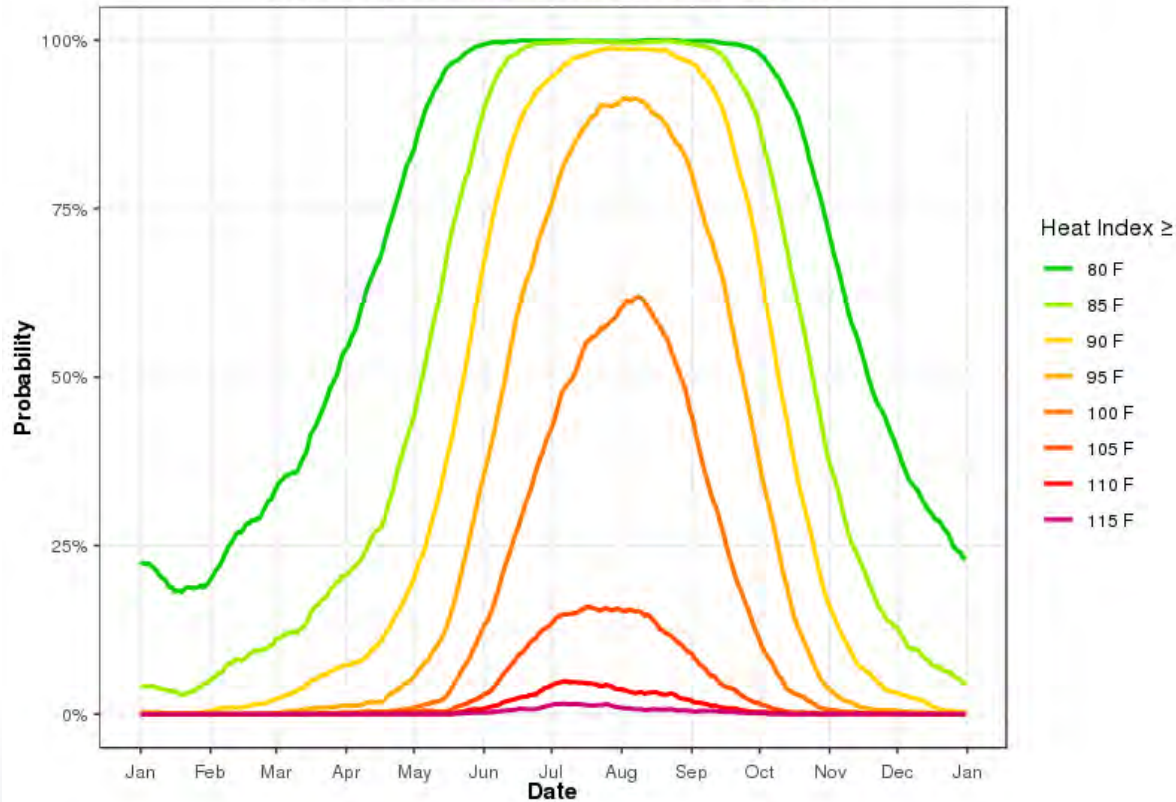


<https://mrcc.purdue.edu/clim/heatindex#>

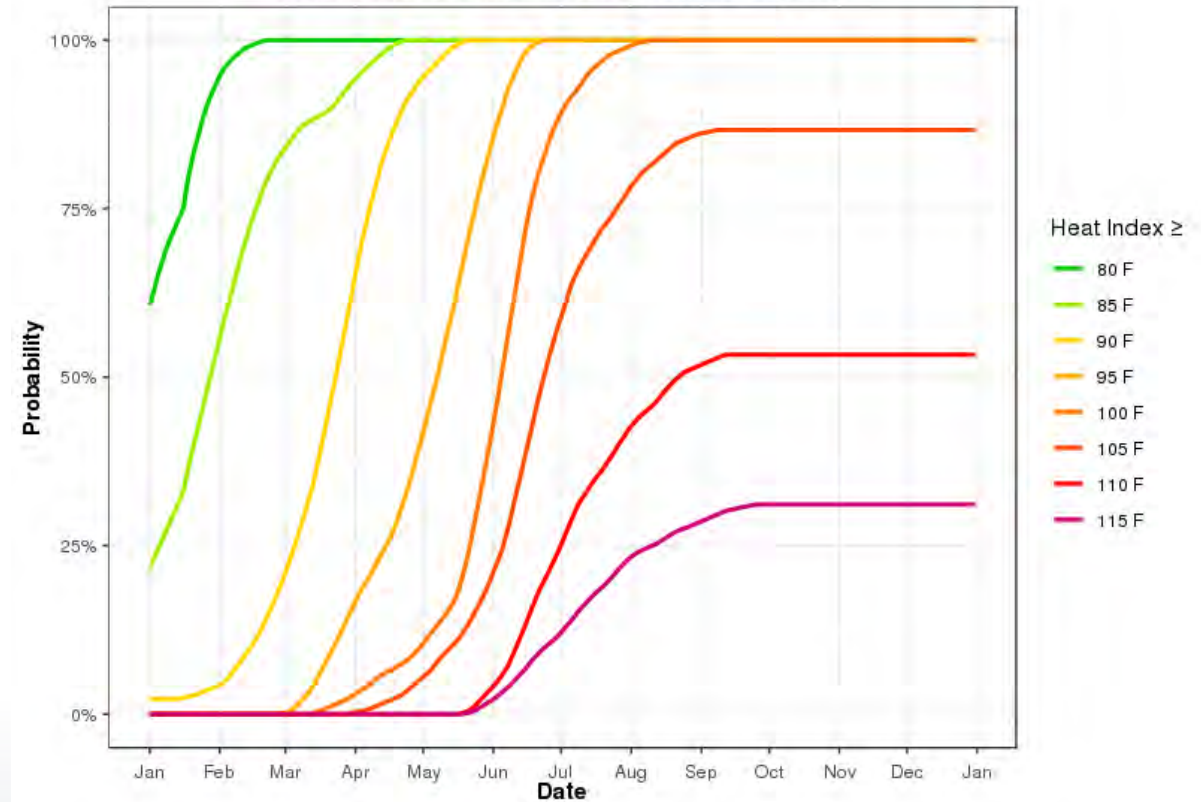
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**Heat Index Probability**  
KMLB - MELBOURNE INTL AP, FL, 1974 to 2023



**Heat Index Probability Before Date**  
KMLB - MELBOURNE INTL AP, FL, 1974 to 2023



<https://mrcc.purdue.edu/clim/heatindex#>

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## Heat Index Climatology: Average Number of Days with $\geq 3$ hrs for

### INDIANAPOLIS INTL AP

Heat Index $\geq$	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F
Calendar Year	83.5	50.2	26	11	3.7	0.9	0.2	0
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0.1	0	0	0	0	0	0	0
April	1.2	0	0	0	0	0	0	0
May	7	2.5	0.5	0	0	0	0	0
June	17.1	10.6	4.9	1.6	0.3	0.1	0	0
July	24.3	17.3	10.4	5.3	2.1	0.6	0.1	0
August	21.6	14	7.7	3.4	1.2	0.3	0	0
September	10.5	5.6	2.4	0.6	0	0	0	0
October	1.6	0.3	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0

*Note: Annual averages may not match the sum of monthly averages due to rounding.*

**Data Time Period: 1973 to 2023**



**Key Messages:** Early season heatwave to impact parts of Texas and Louisiana into early next week. [See more](#)

## Welcome to HEAT.gov

Heat related illnesses and death are largely preventable with proper planning, education, and action. Heat.gov serves as the premier source of heat and health information for the nation to reduce the health, economic, and infrastructural impacts of extreme heat.

Heat.gov is the web portal for the National Integrated Heat Health Information System (NIHHIS)

## News

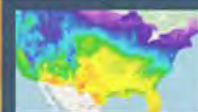
[Announcing the NIHHIS Centers of Excellence for Community Heat Resilience](#)

[Announcing the 2024 Urban Heat Island Mapping Communities](#)

[Watch the Recordings of the NIHHIS National Meeting](#)

[NWS and CDC Launch Experimental HeatRisk Tool](#)

[CDC Releases New Clinical Guidance on Heat and Health](#)



Tools & Information



Who is at Risk to Extreme Heat



Climate and Health Outlook

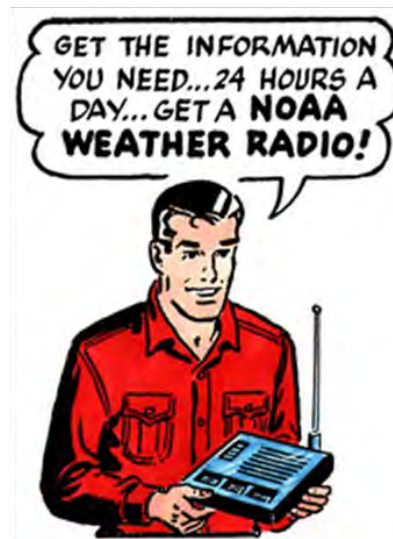
<https://www.heat.gov/>

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# NOAA All Hazards Weather Radio



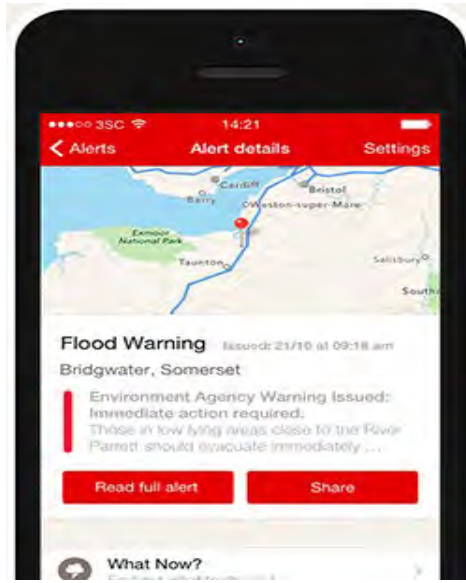
<https://www.weather.gov/nwr/>

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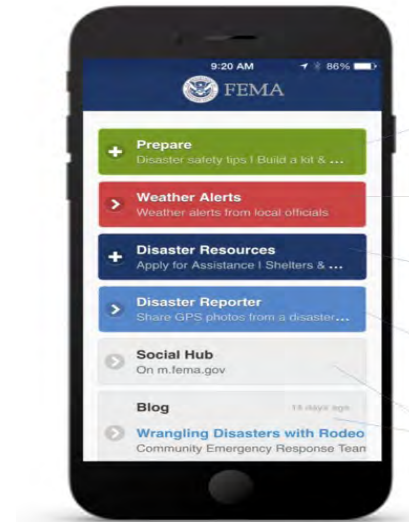




# Have Multiple Ways to Stay Informed



<http://redcross.org/>



<https://www.fema.gov/>



Local Media and Apps



<https://www.ready.gov/alerts>

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# NWS StormReady Program

## Overview

- Communication and safety skills needed to save lives
- Help strengthen local safety programs

## StormReady Benefits

- Opportunity to review and improve your hazardous weather plans
- Engage with NWS meteorologists
- Certificate and formal recognition
- Qualify for rate reductions in the National Flood Insurance Program (NFIP)



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# NWS Weather-Ready Nation Ambassadors

## Overview

- Formally recognizes NOAA partners who are improving the nation's readiness, responsiveness, and resilience against extreme weather, water, and climate events

## WRN Ambassador Benefits

- Emails about seasonal outlooks, weather safety campaigns, engagement opportunities, and others
- Certificate of Recognition
- Being recognized at our WRN Ambassador appreciation wall
- A chance to be recognized as a WRN Ambassador of Excellence



Sign up here:

[www.weather.gov/wrn/amb-tou](http://www.weather.gov/wrn/amb-tou)



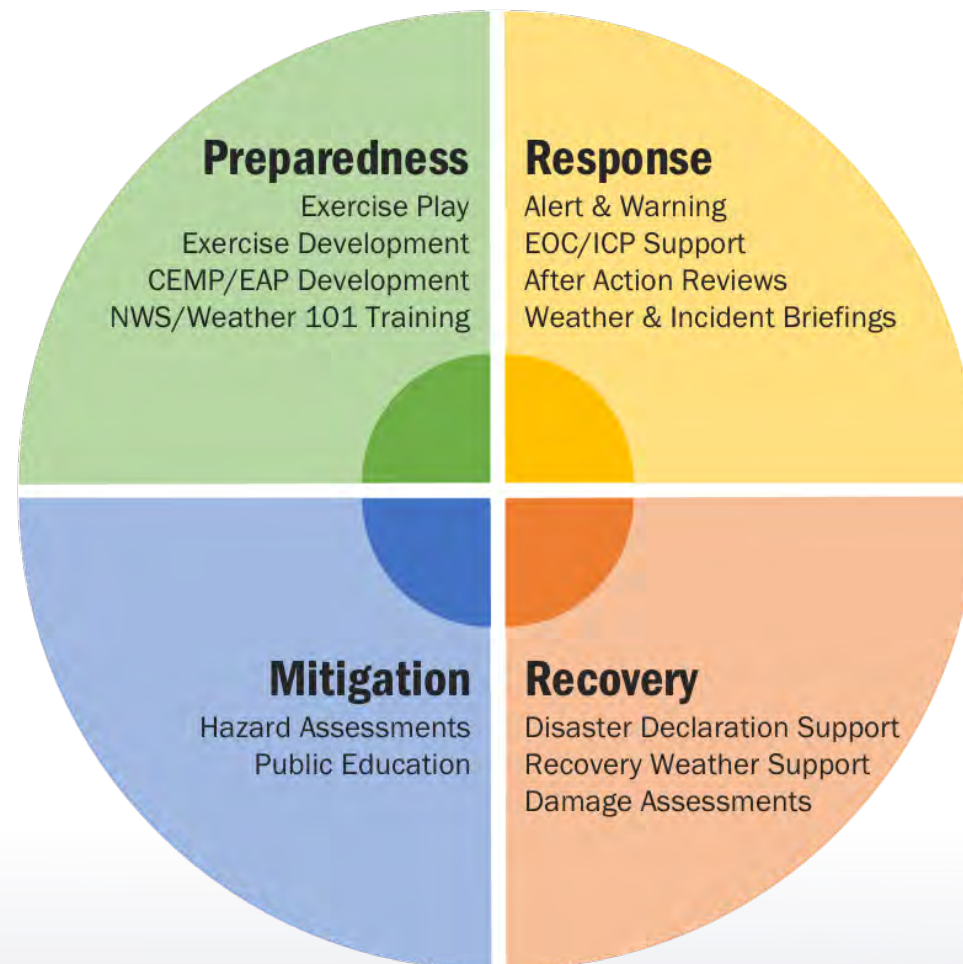
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# Collaboration Opportunities

- Listening sessions / develop relationships with NWS staff
- Remote / On-site weather support
- Exercise Development and Play
- Service Equity Team (SET) discussions
- Identify key weather thresholds in your area
  - Biggest weather threats
  - Critical decisions due to weather



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# How to Contact Your Local NWS Office

- Call your local NWS office direct line
- Follow your local office on Social Media
  - Twitter and Facebook
    - @NWSIndianapolis
    - @NWSMelbourne
- NWSChat 2.0 / Slack - Register for an account if eligible
- Email
  - [nws.indianapolis@noaa.gov](mailto:nws.indianapolis@noaa.gov)
  - [sr-mlb.webmaster@noaa.gov](mailto:sr-mlb.webmaster@noaa.gov)
  
  - [sam.lashley@noaa.gov](mailto:sam.lashley@noaa.gov)
  - [william.ulrich@noaa.gov](mailto:william.ulrich@noaa.gov)



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